

# Sequence Listing

<110>     Dobeel Corporation

<120>     PRE S PROTEIN OF HEPATITIS B VIRUS (HBV) AS AN ADJUVANT AND A  
COMPONENT OF HBV VACCINE

<150>     KR 10-2001-29002

<151>     2001-05-25

<160>     11

<170>     KopatentIn 1.71

<210>     1

<211>     522

<212>     DNA

<213>     HBV(adr subtype) pre S gene

<400>     1

atgggagggtt ggtcttccaa acctcgacaa ggcattgggga cgaatctttc tgttccaat	60
cctctgggat tctttccga tcaccagttg gaccctgcgt tcggagccaa ctcaaacaat	120
ccagattggg acttcaaccc caacaaggat cactggccag aggcaaatca ggtaggagtg	180
ggagcattcg ggccagggtt caccacacca cacggcggtc ttttggggtg gagccctcag	240
gctcagggca tattgacaac agtgccagca gcgcctctc ctgcctccac caatcggcag	300
tcaggaagac agcctactcc catctctcca cctctaagag acagtcattc tcaggccatg	360
cagtggaaact ccaccacatt ccaccaagct ctgctagatc ccagagttag ggcctatat	420
tttcctgctg gtggctccag ttccgaaca gtaaaccctg ttccgactac tgcctcacc	480
atatcgtcaa tcttctcgag gactggggac cctgcaccga ac	522

<210>     2

<211>     522

<212>     DNA

# Sequence Listing

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<213> HBV(ayw subtype) pre S gene

<400> 2

atgggagggtt ggtcttccaa acctcgacaa ggcatggggc agaattcttc caccagcaat	60
cctctgggat tctttcccga ccaccagttg gatccagcct tcagagcaaa caccgcaaat	120
ccagattggg acttcaatcc caacaaggac acctggccag acgccaacaa ggtaggagct	180
ggagcattcg ggctgggatt caccocacca cacggaggcc ttttggggtg gagccctcag	240
gctcagggca tactagaaac gttgccagca aatccgcctc ctgcctctac caatcgccag	300
tcaggaaggc agcctacccc gctgtctcca cctttgagaa aactcatcc tcaggccatg	360
cagtggaact ccacaacctt ccaccaaact ctgcaagatc ccagagttag aggcctgtat	420
ttccctgctg gtggctccag ttcaggaaca gtaaaccctg ttccgactac tgtctctccc	480
atatcgtaaa tcttctcgag gattggggac cctgcgctga ac	522

<210> 3

<211> 522

<212> DNA

<213> HBV(adw subtype) pre S gene

<400> 3

atgggagggtt ggtcatcaaa acctcgcaaa ggcatgggga cgaacctttc tgttccaac	60
cctctgggat tctttcccga tcatacagttg gaccctgcat tcggagccaa ttcaaacaat	120
ccagattggg acttcaaccc catcaaggac cactggccac aagccaacca ggtaggagtg	180
ggagcatttg ggccagggtt cactccccc cagggagggtg ttttggggtg gagccctcag	240
gctcagggca tattggccac cgtgccagcg atgcctctc ctgcctccac caatcggcag	300
tcaggaaggc agcctactcc catctctcca cctctaagag acagtcaccc tcaggccatg	360

# Sequence Listing

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cagtgaatt ccacagcttt ccaccaagct ctgcaagatc ccagagtcag gggcctgtat      420
tttctgctg gtggctccag ttcaggaaca ctcaaccctg ttccaactat tgcctctcac      480
atctcgtcaa tctcctcgag gattggggac cctgcaccga ac                          522

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<210>      4
<211>     174
<212>      PRT
<213>      HBV(adr subtype) pre S protein

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<400>      4
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr Asn Leu
  1              5              10              15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
          20              25              30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn
          35              40              45

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Val Gly Ala Phe Gly
          50              55              60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln
          65              70              75              80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser
          85              90              95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu
          100             105             110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His
          115             120             125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
          130             135             140

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# Sequence Listing

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Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
 145                      150                      155                      160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
                     165                      170

<210>      5  
 <211>      174  
 <212>      PRT  
 <213>      HBV(ayw subtype) pre S protein

<400>      5  
 Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Gln Asn Leu  
     1                      5                      10                      15

Ser Thr Ser Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
                     20                      25                      30

Ala Phe Arg Ala Asn Thr Ala Asn Pro Asp Trp Asp Phe Asn Pro Asn  
                     35                      40                      45

Lys Asp Thr Trp Pro Asp Ala Asn Lys Val Gly Ala Gly Ala Phe Gly  
                     50                      55                      60

Leu Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
                     65                      70                      75                      80

Ala Gln Gly Ile Leu Glu Thr Leu Pro Ala Asn Pro Pro Pro Ala Ser  
                     85                      90                      95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Leu Ser Pro Pro Leu  
                     100                      105                      110

Arg Asn Thr His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His  
                     115                      120                      125

Gln Thr Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
                     130                      135                      140

# Sequence Listing

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Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Val Ser Pro  
 145                      150                      155                      160

Ile Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro Ala Leu Asn  
                                  165                      170

<210>     6  
 <211>     174  
 <212>     PRT  
 <213>     HBV(adw subtype) pre S protein

<400>     6  
 Met Gly Gly Trp Ser Ser Lys Pro Arg Lys Gly Met Gly Thr Asn Leu  
       1                      5                      10                      15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
                                  20                      25                      30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Ile  
                                  35                      40                      45

Lys Asp His Trp Pro Gln Ala Asn Gln Val Gly Val Gly Ala Phe Gly  
                                  50                      55                      60

Pro Gly Phe Thr Pro Pro His Gly Gly Val Leu Gly Trp Ser Pro Gln  
       65                      70                      75                      80

Ala Gln Gly Ile Leu Ala Thr Val Pro Ala Met Pro Pro Pro Ala Ser  
                                  85                      90                      95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
                                  100                      105                      110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Ala Phe His  
                                  115                      120                      125

Gln Ala Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
       130                      135                      140

# Sequence Listing

Gly Ser Ser Ser Gly Thr Leu Asn Pro Val Pro Thr Ile Ala Ser His  
145 150 155 160

Ile Ser Ser Ile Ser Ser Arg Ile Gly Asp Pro Ala Pro Asn  
165 170

<210> 7  
<211> 39  
<212> DNA  
<213> primer

<400> 7  
gtctctagac aagagaatgg gaggttggtc ttccaaacc 39

<210> 8  
<211> 37  
<212> DNA  
<213> primer

<400> 8  
atcggatccc tagttcgggtg cagggtcccc agtcctc 37

<210> 9  
<211> 174  
<212> PRT  
<213> PreS-15m protein

<400> 9  
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

# Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly  
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His  
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
165 170

<210> 10

<211> 174

<212> PRT

<213> PreS-123m protein

<400> 10

Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr Asn Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

# Sequence Listing

---

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly  
 50                                      55                                      60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
 65                                      70                                      75                                      80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
                                     85                                      90                                      95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
                                     100                                      105                                      110

Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His -  
                                     115                                      120                                      125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
                                     130                                      135                                      140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
 145                                      150                                      155                                      160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
                                     165                                      170

<210>    11  
 <211>    174  
 <212>    PRT  
 <213>    PreS-dm protein

<400>    11  
 Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu  
       1                                      5                                      10                                      15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
                                     20                                      25                                      30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
                                     35                                      40                                      45



## Sequence Listing

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Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly	50	55	60
Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln	65	70	75
Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser	85	90	95
Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu	100	105	110
Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His	115	120	125
Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly	130	135	140
Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro	145	150	155
Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn	165	170	